

### **REMARKS/ARGUMENTS**

The present amendment is in response to the Office Action mailed May 21, 2004, in which Claims 1 - 7, 9 - 17 and 17 - 23 were rejected. Applicant has thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the reference cited therein. The following remarks are believed to be fully responsive to the Office Action and, when coupled with the amendments made herein, are believed to render all claims at issue patentably distinguishable over the cited references.

Claims 1 - 6, 9 - 16, and 17 - 23 are amended herein. Claims 8 and 16 were previously cancelled. New Claims 24 through 26 are added. Accordingly, Claims 1 - 6, 9 - 16, and 17 - 26 remain pending.

All the changes are made for clarification and are based on the application and drawings as originally filed. It is respectfully submitted that no new matter is added.

Applicant respectfully requests reconsideration in light of the above amendments and the following remarks.

**CLAIM REJECTIONS- 35 U.S.C. SECTION 112, 2<sup>nd</sup> PARAGRAPH**

With respect to Paragraphs 1 and 2 of the Office Action, the Examiner rejected Claims 1 through 23 that were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant respectfully traverses this rejection.

The Examiner is of the opinion that the limitation of Claims 1, 9 and 17, which refers to "a lens" "to measure said wafer and said datum slice" is indefinite, for it is unclear as to how a lens measures.

Applicant has amended independent Claims 1, 7, and 17 for clarification. According to the page 9 and lines 17 through 24 of the specification of the application as filed disclosed that how to measure the thickness of the wafer. The disclosure states: **"Then, the stage 200 is moved to the place under the lens 300 by using the transport device 270 to start measuring the thickness of the wafer. The light us used to irradiate from the lens 300 to the surface of the wafer 250 and the data, which is returned from the light, is showed on the monitor 500. The thickness of the wafer will be known by analyzing the data which is on the monitor**

**500.”** Thus, Applicant inserted the “the thickness of” before “said wafer and said datum slice” in Claims 1, 9, and 17 to distinguish the limitation of the above claims. In addition, Applicant has added new Claims 24 through 26 to illustrate the “lens to measure the thickness of the wafer” according to the specification at page 9 and lines 14 through 23.

Reconsideration and withdrawal of the rejections under 35 U.S.C. Section 112, 2<sup>nd</sup> paragraph, are respectfully requested.

#### **CLAIM REJECTIONS- 35 U.S.C. SECTION 103 (a)**

With respect to Paragraphs 3 and 4 of the Office Action, the Examiner rejected Claims 1-4, 6, 7, 9-12, 14, 15, 17, and 19-23 under 35 U.S.C. 103(a) as being unpatentable over Elliott et al (U.S. Patent No. 5,669,979) in view of Kilgore et al (U.S. Patent No. 6, 200,412) and Harwood et al (U.S. Patent No. 5, 237,267) further in view of Rose et al (U.S. Patent No. 5, 931, 721).

With respect to Paragraphs 3 and 5 of the Office Action, the Examiner rejected Claims 5, 13, and 18 under 35 U.S.C. 103(a) as being unpatentable over Elliott et al (U.S. Patent No. 5,669,979) in view of Kilgore et al (U.S. Patent No. 6,200,412) and Harwood et al (U.S. Patent No. 5,237,267) further

in view of Rose et al (U.S. Patent No. 5,931,721) further in view of Danese (U.S. Patent No. 6,272,768).

Applicant respectfully traverses these rejections.

Examiner is of the opinion that Elliott discloses the photoreactive surface processing device. Kilgore et al taught the chuck and platens are functional equivalents for wafer support. In addition, Harwood sets forth a wafer probe station having auxiliary chucks taught that multiple chucks should be used in order accommodate systems for calibration substrates. However, Elliott is silent with respect to the second nozzle, but Rose discloses the aerosol surface processing system has two nozzles opposing each other to improve wafer-cleaning performance.

The combination of the disclosures of Elliott et al ('979), Kilgore et al ('412), Harwood et al ('267) and Rose ('721) is focused on the removal of foreign material.

Elliott et al ('979) focuses on a laser beam of UV radiation that is delivered at an acute angle to the surface of the substrate, the beam striking the surface at a long and narrow reaction region. While the beam is sweeping the surface, a flow reactant gas is provided at the reaction region so that the gas is excited by the UV laser beam (Abstract). Elliott et al also disclosed the

**“fluid include an inducer gas in the vicinity of the reactant to assist the reactant to react with the foreign material”.** The inducer gas may be a member of the group consisting of  $\text{NH}_3$ ,  $\text{H}_2$ ,  $\text{N}_2\text{O}$ , and fluorocarbons. **The fluid may include a diluent gas (e.g., helium) to reduce the viscosity of the reactant, or to reduce the ultraviolet absorption coefficient of the reactant (e.g., a member of the group consisting of nitrogen, helium and argon) (col. 2, lines 1-8).** Furthermore, Elliott et al disclosed the **input fluid, a mixture of elemental gases, a gas-phase compound , a mixture of one or more of these gases, or liquid is used to reduce or prevent the ablation components of the foreign material in the cloud from re-depositing onto the substrate surface by, e.g., reacting with the ablation components to form simple gases (“reaction products,” e.g., gases) or entraining the ablation components in a gas flow away from the substrate.** The formation of the reaction products is generally associated with the generation of heat and light (col. 5, lines 50-60).

Kilgore et al ('412) discloses a plasma of hydrogen or a hydrogen–oxygen mixture that is **used to remove fluorine-bearing residues from the surfaces of the reaction chamber following the clean cycle (col. 2, lines 44-46).**

Rose et al ('721) discloses removing foreign material from the surface of a substrate by directing a high velocity aerosol of at least partially frozen particles against the foreign material to be removed (Abstract). Rose ('721) also discloses this method comprising the steps of: generating a flow of a gas having a temperature above the freezing point of the aerosol particles for entraining the aerosol of at least partially frozen particles; entraining the aerosol particles in the gas; accelerating the gas to at least sonic velocity; and **"delivering the entrained aerosol particles to foreign material to be removed from the surface of the substrate"** (col. 3, lines 22-27).

Nevertheless, regarding the amended claims, which disclosed a measuring system of a gas-stream environment, the measuring system focuses on the measuring the thickness of the wafer by lens. The present invention disclosed the **"lens locating above the stage to measure the thickness of the wafer and the datum slice"**. The present invention also **does not utilize the laser beam that used to react with foreign material on the surface of substrate**. However, the purpose of the combination of the disclosures of Elliott et al ('979), Kilgore et al ('412), Harwood et al ('267) and Rose ('721) is **to remove the foreign material on the surface of the surface**. Therefore, the enablement and the objective are different between

the present invention and the combination of the cited disclosures. Thus, the rejection cannot achieve the present invention.

In addition, the Examiner is of the opinion that the combination of the disclosures of Elliott et al ('979), Kilgore et al ('412), Harwood et al ('267) and Danese ('768) disclosed everything as above (as Claims 1, 9, 17). However, Elliott et al are silent with respect to a venturi structure for the mechanical pump. Danese ('768) **discloses an apparatus for treating something in UV light that taught the venturi pump are typical vacuum pumps for withdrawing fluids.**

The amended claims disclose a measuring system of a gas-stream. As with the above statements, the objective of the present invention is to measure the thickness of the wafer by use of a lens. According to the disclosure of Danese ('768), **"the UV source is configured to deliver the ultraviolet light through the vapor to process the object (Abstract).** Thus, the **objective of the combination of the disclosure of above reference citations is to remove the foreign material by "UV light (or UV source)".** The disclosure of the present did invention **did not utilize the "UV light" to treat the surface of the substrate.** According to the amended claims, the present invention utilized the lens to measure the thickness of the wafer.

Therefore, the enablement and objective are different between the present invention and the combination of the disclosure of above reference citations. Thus, the combination of the disclosures of Elliott et al ('979), Kilgore et al('412), Harwood et al ('267), and Daese ('768) cannot achieve the present invention.

Reconsideration and withdrawal of the rejections under 35 U.S.C. Section 103(a) are respectfully requested.

### **CONCLUSION**

In light of the above amendments and remarks, Applicant respectfully submits that all pending Claims 1-7, 9-15, and 17-23 as currently presented are in condition for allowance. If, for any reason, the Examiner disagrees, please call the undersigned attorney at 248-433-7552 in an effort to resolve any matter still outstanding *before* issuing another action. The undersigned attorney is confident that any issue which might remain can readily be worked out by telephone.

Appl. No. 09/847,111  
Amdt. Dated: August 23, 2004  
Reply to Office action of May 21, 2004

Applicant respectfully requests that a timely Notice of Allowance be  
issued in this case.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'T. Moga', with a long horizontal line extending to the right.

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